



# Crises and Fiscal Reforms in Latin America

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Presentation at IPES  
12 November 2010

# Motivation

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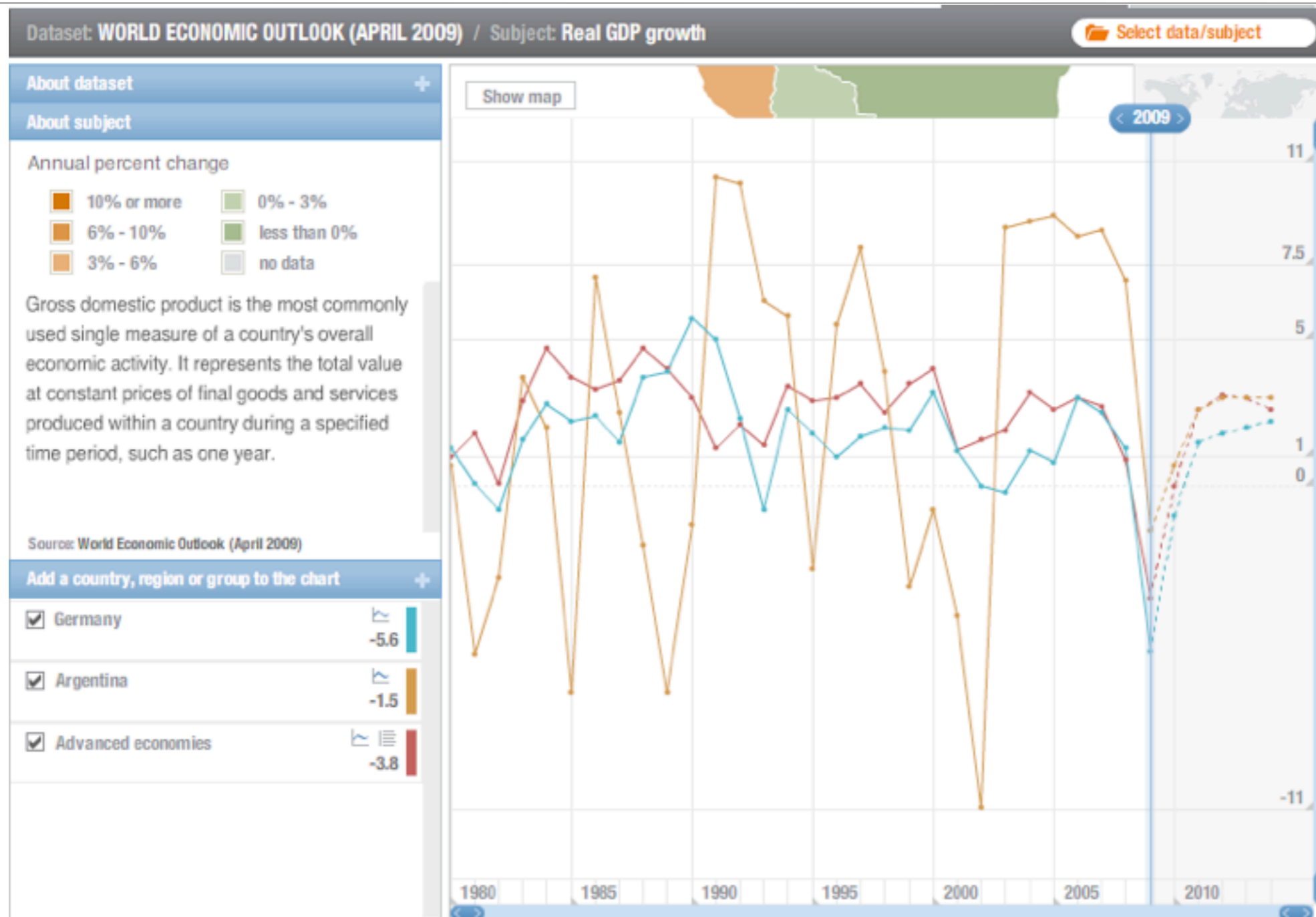
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- Financial crisis that began in 2008 has led to a sovereign debt crisis in many European countries in 2010
  - Calls for fundamental fiscal reforms from politicians and international organizations, such as the European Commission and IMF
- Democracies in Latin America of interest
  - lots of crises, fair amount of reform
  - Does one “cause” another, or are crises at least associated with reforms?
  - Are successful reforms the reason why Latin America is doing comparatively well?

# Argentine Economic Climate



# Outline for Today's Talk

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- Discuss Hypotheses

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- Discuss Data



# Outline for Today's Talk

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- Discuss Hypotheses
- Discuss Data
- Empirical analysis
  - Punchline: reforms more likely the year of a fiscal crisis (lags not relevant, all other types of crisis also not relevant)
  - More likely when there are general strikes, electoral systems that promote the personal vote

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- H5: Fiscal reforms come only several years after the recovery (lock-in policy; IMF 2009)
- H6: Intrinsic size of CPR problem in decision-making means greater need for fiscal reforms in the first place



# Dependent Variables: Changes in Fiscal Rules and Institutions

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- Numerical rules: establish ex ante constraints
- Procedural rules: define the norms and prerogatives of actors in the budget process.
- Transparency rules: make it easier to follow what the government is doing on the budget

# What to explain

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Argentina			N		U						R(N,C,T),S,P,r(c),S,r(n),S				R(N,S,C)	
Bolivia				S							U					
Brazil									N		R(N,S,T),P					
Colombia						C					N	S		R(N,P,T)		
Chile											R(N,C)			T		
Costa Rica												U,A				
Ecuador						U			N	C			R(N,P,C,T)		T	r(n)
El Salvador				U			A									
Guatemala											P,N,U					
Honduras														P,U		
Mexico									C				C,P,T			
Nicaragua													S,A			P
Panama									U				R(N),S,T		r(n)	P,U
Paraguay											U			P		p
Perú					U						R(N,P,C,T)		r(n),C,T			
Dom Rep															T	
Uruguay							U									
Venezuela									C,U		P			R(N)		

## Notes

N: Numerical rules; C: Contra-cyclical Fund; P: Multiyear framework; R: Fiscal Responsibility Law; S: Subnational Governments; U: Single account; T: Transparency, and; A: Principles of transparency.

Italic lower case means that the previously established reforms were reversed or the restrictions weakened.

R(X,Y) means that the Fiscal Responsibility Law included restrictions to X and Y.

from Filc and Scartascini (2006); Hallerberg and Scartascini (2010) book manuscript

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  - Reinhart and Rogoff (2009): broader definition
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- Exchange Rate Crisis
- “Sudden Stops”

# Comparative Crises

Country	Bank (LV)	Bank (RR)	Exchange	Sudden Stop	Debt Crisis	Debt Restructuring
Argentina	1995, 2001	1990, 1995, 2001	2002	1995, 1999, 2001-2	2001	2005
Bolivia	1994	1994		[missing]		1992
Brazil	1990, 1994	1990, 1994-96	1992, 1999	1993, 1995, 1997, 1999		1994
Chile				1991-2, 1998-9, 2004-05		1990
Colombia	1998			1998-2000		
Costa Rica	1994	1994-97	1991	[missing]		1990
Dom Rep	2003	1996, 2003	1990, 2003	[missing]	2003	1994, 2005
Ecuador	1998	1994, 1996, 1998-9	1999	[missing]	1999	2000
El Salvador		1998		[missing]		
Guatemala		1991, 2001		[missing]		
Mexico	1994	1994-97	1995	1994-5		1990
Nicaragua	2000	1990-6, 2000-02	1990	[missing]		1995
Panama				[missing]		1996
Paraguay	1995	1995-99, 2002	2002	[missing]		1992
Peru		1990, 1999		1997-8		1996
Uruguay	2002	2002	2002	[missing]	2002	1991, 2003
Venezuela	1994	1993-95	1994	2000-01		1990

from Reinhart and Rogoff 2009; Laeven and Valencia 2008; Rothenburg and Warnock 2006



# Model


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- Conditional logit (Von Hagen et. al 2001, Mierau et. al 2007, IMF 2009)
  - Subject dependence: reforms in one country may depend upon what other countries are doing
  - Heterogeneity: countries may “learn” from one another
  - Can try to model these; include reforms in other places, whether one has reformed, the last time one reformed, etc.
- BTSCS model that includes time splines
- Possibility...conditional frailty models (Box-Steffensmeier, De Boef, and Joyce 2007)

# Conditional Logit, Fixed Effects

	Conditional Logit
Banking Crisis (Reinhart-Rogoff)	-2.31* (.92)
Debt Crisis (Laeven- Valencia)	3.08* (1.37)
Debt Restructuring	-1.14 (1.13)
Banking Crisis (RR), 1-Year Lag, Other Countries, GDP Weighted	-2.52* (1.02)
Debt Crisis, 1-Year Lag, Other Countries, GDP	10.23* (4.64)
Number of Years Since Last Reform	.32** (.08)
Number of Previous Reforms	-.26 (.19)
Likelihood Ratio	45.73
p	0.00
N	272

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# BTSCS Logistic Regression with Political Variables

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Banking Crisis (Reinhart-Rogoff)	-1.58 (.87)
Debt Crisis (Laeven-Valencia)	3.04* (1.41)
Debt Restructuring Crisis	-0.47 (1.06)
Personal Vote	2.30* (.97)
Presidential Pre-Electoral Period	.73 (.62)
Cabinet Size	-.09 (.06)
General Strikes	.57** (.22)
One Party Majority	-.00 (.00)
Checks	.04 (.18)
Partisan of Executive	.11 (.25)
Quality of Bureaucracy	-.16 (.33)
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# Summary

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- fiscal crisis predicts reforms in year of the crisis *only*
  - Are they a requirement for getting IMF funding?
- Other types of crises not associated with fiscal reforms
- Some effect on reform when other countries (as weighted by GDP) have fiscal crises
- Countries with Electoral systems associated with greater Common Pool Problems also have more reforms